REMARKS

Applicant believes that consideration of the following remarks will place this application in condition for allowance. Accordingly, reconsideration of the present application is respectfully requested.

I. The Claims

Claims 1, 5 – 14, 16 – 18, 20 – 31, 33 – 45 and 47 - 70 are presented for examination. Of the pending claims, Claims 1, 25, 28, 33, 51, 54, 60 and 68 are independent claims.

II. The Invention

Claims 1, 5 to 14, 16 to 18 and 20 to 31 are directed to methods for inhibiting the growth of fungi on or in plant tissues by applying an auxin, together with an alkaline earth or transition metal, to seeds or tubers before planting or to roots, foliage, flowers or fruit of the plants after planting. Claims 1, 5 to14, 16 to 18 and 20 to 24 specify indole-3-butyric acid, while Claims 25 to 32 merely specify an auxin or synthetic auxin. Claims 28 to 31 more specifically specify that the inhibited fungi is *Fusarium*. It is known from the prior art that application of such compounds may result in uncontrolled growth and death of plants. That knowledge forms the basis of several very effective commercial weed killers. Accordingly, in order to achieve the desired results, it is critical that the specified auxin be applied in an amount effective to inhibit growth of harmful organisms causing the disease, but also in an amount insufficient to negatively effect growth of the plant tissues. That limitation is found in each of independent Claims 1, 25 and 28.

Claims 33 to 45 and 47 to 59 are directed to methods for inhibiting the infestation of plants by insects and their larvae by applying an auxin, together with an

alkaline earth or transition metal, to specific plant parts after planting or to seeds or tubers before planting. Claims 51 to 53 limit the auxin to a synthetic auxin, while Claims 54 to 59 further limit the auxin to indole-3-butyric acid. Again, because such compounds may result in uncontrolled growth and death of plants, in order to achieve the desired results, it is critical that the auxin or plant growth hormone be applied in an amount effective to inhibit infestation by the insects and their larvae, but also in an amount insufficient to negatively effect growth of the plant tissues. That limitation is found in each of the independent Claims 33, 51 and 54.

Finally, Claims 60 to 70 are directed to seeds, seed pieces and tubers that have been treated with an auxin (Claims 60 to 67) or indole-3-butryic acid, either alone or in combination with indole-3-acetic acid (Claims 68 to 70), together with an alkaline earth or transition metal, to produce plants having enhanced resistance to fungi attack. Again, because such compounds may result in uncontrolled growth and death of plants, in order to achieve the desired results, it is critical that the auxin or plant growth hormone be present on the seed or seed piece in an amount effective to inhibit growth of harmful organisms, but also in an amount insufficient to negatively effect growth of the emerging plant tissues. That limitation is found in each of the independent Claims 60 and 68.

III. The Rejection under 35 U.S.C. § 103

Claims 1, 5 – 14, 16 – 18, 20 – 22, 25 – 31 and 47 – 70 stand rejected under 35 U.S.C. §103(a) as being obvious and, thus, unpatentable over the disclosures in the newly cited Clough patent (United States Patent No. 4,496,388). Claims 23 and 24 also stand rejected under 35 U.S.C. §103(a) as being obvious and, thus,

unpatentable over the disclosures in the Clough patent as applied to the remaining claims and further in view of the disclosures of the newly cited Drake or Eden patents (respectively, British Patent No. 1.565,906 and United States Patent No. 4.755,397).

It is asserted that the Clough patent discloses a fungicidal composition comprising a metal complex of specifically disclosed triazolylalkanetriol derivatives. It is also asserted that the Clough patent discloses the use, with the claimed triazole and imidazole fungicidal compounds, of auxins, anionic surfactants and other components, including calcium carbonate. It is further asserted that Clough teaches such compositions may be used as aqueous dispersions and may be used to control fungi, including *phyophthora* and *rhizoctonia* on plants by application to the plants or their seeds.

The Examiner, however, admits that Clough does not exemplify the use of a composition including a metal complex of the claimed triazole and imidazole compounds, indole acetic acid, indole butyric acid and calcium lignosulphonate to control fungi or insects and their larvae on plants.

It is asserted, however, without any support that Applicant's claimed invention would have been obvious in view of the disclosure of Clough. Thus, the Examiner concludes that Applicant's Claims 1, 5 – 14, 16 – 18, 20 – 22, 25 – 31 and 47 – 70 are obvious.

The Examiner correctly states that the Drake and Eden patents disclose the use of encapsulation of active ingredients to achieve slow release. This disclosure, combined with the disclosures of the Clough patent as applied is then asserted to

render Claims 23 and 24 obvious. Applicant admits that encapsulation is well known and, accordingly, does not separately argue this rejection.

IV. The Response

Claims 1, 5 – 14, 16 – 18, 20 – 31 and 47 – 70 have been rejected as obvious under 35 U.S.C. §103(a) over the disclosure in the Clough patent, either alone, or with respect to Claims 23 and 24, together with the disclosure in the Drake or Eden patents. These rejections are respectfully traversed.

It is important to recognize that the primary reference, the Clough patent, is directed to the synthesis of complex organic compounds, specifically the identified trazole and imidizole, and to the use of these environmentally hazardous compounds as fungicides. It is exactly such hazardous environmental compounds that Applicant seeks to avoid by disclosing and claiming his novel and non-obvious methods for using auxins, particularly the synthetic auxin, indole-3-butyric acid, as an environmentally friendly way to control the attack on plants by both flora (fungi and bacterial) and fauna (insects and their larvae).

Neither the Clough patent, nor the secondary Drake and Eden patents, discloses or suggests the claimed use of an auxin, preferably a synthetic auxin, as a means for controlling the attack of fungi and of insects and their larvae on plants. The Clough patent is directed only to the use of its new triazole and imidazole compounds as fungicides. Clough merely discloses the use of his newly synthesized complex triazole or imidazole organic compound as fungicides. While Clough suggests that these complex organic compounds, or salts or complexes thereof, may be applied, together with any number of other conventional compounds, including insecticides and

plant growth regulators, Clough neither discloses nor suggests the use of auxins, together with micronutrient metals, to protect against attack by fungi and insects and their larvae, in the absence of his fungicidal triazole and imidazole compounds .

Clough neither discloses nor suggests that auxins, preferably synthetic auxins, can be used without the fungicidal triazoles and imidizoles he has newly synthesized to protect plants by inhibiting attack by fungi and by insects and their larvae. In fact, Clough neither discloses nor suggests any means for protecting plants from attack by insects and their larvae.

While Clough does suggest that his fungicidal triazole and imidazole compounds may used in the form of their salts or metal complexes, Clough neither discloses nor suggests that those fungicidal organics, not to mention Applicant's auxins, should be applied in the presence of micronutrient metals selected from the group consisting of the alkaline earth metals, transition metals and mixtures thereof.

The Examiner has pointed to no teaching in Clough or elsewhere to lead one to believe that auxins, particularly the synthetic auxin indole-3-butyric acid, might be used to protect plants from the attack of fungi and of insects and their larvae. The Examiner has pointed to no teaching in Clough or elsewhere that auxins, particularly the synthetic auxin indole-3-butyric acid, might be used as environmentally friendly substitutes for the conventional organic fungicides and insecticides, such as the triazole and imidizoles disclosed by Cough which are known to do harm to the environment.

In the absence of any teaching to suggest that auxins, particularly the synthetic auxin indole-3-butyric acid, might be used to protect plants from fungi and insects and their larvae, the rejection of the pending claims of the present application

over the disclosure in the Clough patent of conventional, complex organic compounds (the newly synthesized triazoles and imidizoles) as fungicides must be withdrawn. The mere fact that auxins are disclosed as conventional plant growth regulators in three lines of one paragraph of the eighteen column Clough patent provides no support for the rejection of the claims of the present invention over Clough.

Clough neither discloses nor suggests that auxins (particularly the synthetic indole-3-buyric acid), applied together with micronutrient metals selected from the alkaline earth and transition metals, might be used to effectively protect plants from fungi and from insects the their larvae. In fact, nothing in the Clough patent suggests that the auxins even be considered for use in this manner. Because neither the Clough patent, nor the secondary patents applied only against Claims 23 and 24, discloses this claimed feature, the cited references are deficient.

Thus, Applicant respectfully requests withdrawal of the present rejections under 35 U.S.C. §103.

V. The Unrejected Claims

No rejection has been applied against Claims 33 to 45. These claims are directed to methods for inhibiting the infestation of plants by insects and their larvae by applying an auxin, together with a micronutrient alkaline earth or transition metal, to specific plant parts after planting or seeds/tubers before planting

Neither the newly cited patents nor any of the previously cited references discloses or suggests the use of auxins for protecting plants from insects and their larvae. Based upon that and the fact that no rejections were applied against these claims, it is assumed that these claims stand ready for allowance.

VI. The Conclusion

None of the prior art cited by the Examiner or known to Applicant discloses or suggests the invention as now claimed. None of that prior art discloses or suggests (a) methods for protecting plant tissue from attack by fungi or insects/larvae by applying an effective amount of an auxin (preferably indole-3-butyric acid), together with an alkaline earth or transition metal, to the seeds of the plant before planting or to the roots, foliage, flowers or fruit of the plant after planting or (b) seeds, seed pieces or tubers treated with such an auxin, together with an alkaline earth or transition metal, to provide the emerging plant with protection against attack by such pathogenic flora and fauna.

Having already overcome four rejections on the merits, Applicant believes that examination of the claims of this application should be concluded expeditiously and that a Notice of Allowance should promptly issue. Applicant, accordingly, requests that all of the claims in the captioned application, i.e., Claims 1, 5 to 14, 16 to 18, 20 to 31, 33 to 45 and 47 to 70, be promptly passed to issue.

No additional claims fees are required with this Response. However, the Commissioner is authorized to charge any fee which may be required with this Response to Deposit Account No. 19-2112. This authorization is made in duplicate in the accompanying letter.

If the Examiner believes that a telephone conference would expedite allowance, he is urged to contact the undersigned at (713) 227-8008.

Respectfully submitted,

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